

**CITY OF FAIRFIELD**

**RESOLUTION NO. 2017 - 279**

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF FAIRFIELD APPROVING  
AMENDMENT NO. 1 TO PROFESSIONAL SERVICES AGREEMENT BETWEEN THE  
CITY OF FAIRFIELD AND KENNEDY/JENKS CONSULTANTS FOR ENGINEERING  
SERVICES DURING CONSTRUCTION FOR THE SCADA SYSTEM IMPROVEMENTS  
PROJECT AT THE NORTH BAY REGIONAL WATER TREATMENT PLANT**

**WHEREAS**, the North Bay Regional Water Treatment Plant is a water treatment facility jointly owned by the cities of Fairfield and Vacaville; and

**WHEREAS**, staff would like to amend the City's Professional Services Agreement with Kennedy/Jenks Consultants to provide additional engineering support services for post project testing of the Supervisory Control and Data Acquisition (SCADA) system; and

**WHEREAS**, this Amendment is only to change the scope of the work to be performed and will not result in any increase in the original contract amount; and

**WHEREAS**, staff is requesting these additional professional engineering technical services from Kennedy/Jenks Consultants for this assistance.

**NOW, THEREFORE, THE COUNCIL OF THE CITY OF FAIRFIELD HEREBY  
RESOLVES:**

1. The City Manager is hereby authorized and directed to execute on behalf of the City of Fairfield Amendment No. 1 to the Agreement between the City of Fairfield and Kennedy/Jenks Consultants for Engineering Services During Construction for the SCADA System Improvements Project at the North Bay Regional Water Treatment Plant.

**PASSED AND ADOPTED** this 19<sup>th</sup> day of December, 2017, by the following vote:

AYES: COUNCILMEMBERS: PRICE/TIMM/BERTANI/MOY/VACCARO

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

ABSTAIN: COUNCILMEMBERS: NONE

Harry T. Price  
MAYOR

ATTEST:  
Karen L. Rees  
CITY CLERK  
pw

**AMENDMENT NO. 1**

**TO A CONSULTANT SERVICES AGREEMENT BETWEEN THE CITY  
OF FAIRFIELD AND KENNEDY/JENKS CONSULTANTS FOR THE  
NORTH BAY REGIONAL WATER TREATMENT PLANT SCADA  
IMPROVEMENTS PROJECT – ENGINEERING SERVICES DURING  
CONSTRUCTION**

This AMENDMENT No. 1 (hereinafter "AMENDMENT") to the Agreement between the City of Fairfield and Kennedy/Jenks Consultants for the North Bay Regional Water Treatment Plant SCADA Improvements Project – Engineering Service During Construction, dated August 23, 2016, is made and entered this 17<sup>th</sup> day of January 2018, 2017, by and between the CITY OF FAIRFIELD, a municipal corporation (hereinafter "CITY"), and KENNEDY/JENKS CONSULTANTS (hereinafter "CONSULTANT").

**WITNESSETH**

WHEREAS, on August 23, 2016, the parties entered into an AGREEMENT for Consulting Services for the Engineering Services During Construction of the North Bay Regional Water Treatment Plant SCADA Improvements Project (PROJECT); and

WHEREAS, CONSULTANT has agreed to modifications to the AGREEMENT to include additional work scope items with no fee increase.

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements herein set forth, the parties do hereby agree as follows:

1. Section 1) SERVICES of the AGREEMENT shall be amended to include the following:

Add to Exhibit A – Scope of Services the following Task 5:

**"Task 5 – Validation and Testing**

This Task is intended to provide validation of the following areas of technical infrastructure implemented at the NBR Water Treatment Plant in accordance with Specification Section 17340 paragraph 3.08 and to provide CSET reporting and review:

1. Virtual Machine High Availability Validation
2. Disaster Recovery Validation

### 3. Cyber-Security Testing and Validation

### 4. CSET Reporting and Review

For the first 2 cases, the validation will include developing a test plan, and monitoring the execution of the test plan by NBR IT Staff. For the Cyber-Security testing, the execution of the plan will be handled by CONSULTANT's sub-consultant, AllConnected, with the option to be on site for the internal penetration testing.

#### 5.1 – Virtualization Resiliency Validation and Testing:

- a) Hold Task Kickoff Meeting with NBR and City IT Staff at NBRWTP including meeting preparation. While there, audit SCADA workstations and servers for Antivirus, Windows firewalling, and event logging and perform internal vulnerability testing with non-disruptive penetration testing by scanning all internal networks related to NBRWTP with Nessus tool.
- b) Review VMWare and Storage Area Network (SAN) configuration for path and component failure. Determine from IT staff what the expected results are during specific component failure.
- c) Assess Virtual Machine (VM) Usage of physical resources, such as CPU, Memory, and Disk to determine High Availability (HA) capacity of the cluster.
- d) Participate in teleconference with NBR and City IT Staff to determine changes that will be needed prior to failover test.
- e) Create test script that indicates which components will be forced into failure and in what order.
- f) Incorporate test plan review comments.
- g) Oversee the resiliency test based on the test script.
- h) Prepare summary memorandum regarding testing and validation performed.

#### 5.2 – Disaster Recovery Validation and Testing

- a) Review Zerto configuration and VM Selection. Determine from IT Staff what the expected VM and Network subnet failover should be. Document the IT Staff expectations.
- b) Assess Bandwidth and Hardware resource availability from the NBR to City Hall.
- c) Create Disaster Recovery (DR) Testing document that details how a server resource failure would be handled, focusing on the manual steps required for a successful failover test.
- d) Incorporate test plan review comments.
- e) Work with NBR IT to perform failover test to City Hall simulating a complete failure of the storage and server infrastructure at the WTP.
- f) Document findings during failover and document failback procedures.
- g) If warranted, work with NBR IT Staff to perform a second failover test based on findings during the first test.

#### 5.3 – Cyber-Security Validation and Testing

- a) Review as-built documentation for conformance with Drawing I006-Rev3.

- b) Collect inventory of external and internal IP Subnets that will be tested.
- c) Audit firmware versions and configuration details of Layer 3 Gateway, Sonicwall Firewall, NBR IT Switch (HP 5406), and Stratix Switch #1 (5410).
- d) Perform external vulnerability testing with non-disruptive penetration testing.
- e) Provide raw data from the vulnerability tests in Excel format to the NBR IT Staff for review and mitigation.
- f) Document members of the security response team and create cyber response workflow.
- g) Participate in summary teleconference to review findings and next steps.

#### 5.4 – Documentation

- a) Create document for any recommended changes to: 1) the virtual environment to increase resiliency; 2) the Zerto or Network configuration to ease failover to the City Hall infrastructure; and 3) remove vulnerabilities and follow security best practices.
- b) Prepare CSET questionnaire with "Key Questions", "NIST 800-53 v3", "NIST 800-82", and "NIST 800-82 v1" and all pertinent City details, create simple diagram of the NBRWTP Environment for the CSET tool.
- c) Work with NBR IT to collect answers to the CSET questionnaire from the appropriate parties to a reasonable extent.
- d) Fill in gaps in the CSET questionnaire based upon the analysis performed during Task 5.3.
- e) Perform CSET Internal review to validate responses and submit exception report to NBR IT for remediation.
- f) Participate in CSET NBRWTP Review teleconference with City IT Department and key NBRWTP personnel to review final document.
- g) Prepare summary memorandum regarding CSET review of SCADA System.

#### **Assistance from City**

- Sufficient access will be provided to CONSULTANT by CITY to the physical and logical infrastructure to perform the tasks described in Task 5.
- VPN Access will be available for Nick Peros and Richard Pressler to enable access to the critical systems that will be tested and verified.
- Staff from City IT, NBRWTP Operations, and CITY's Systems Integration Contractor will be available for support during execution of the Task 5 work.
- City IT Staff will contribute approximately 2 days to filling out the CSET questionnaire. CSET questionnaire completion will be limited to SCADA systems and elements related to the SCADA systems (example: internet access as it pertains to inbound and outbound connectivity with regards to SCADA systems only will be addressed, not to the administrative components at City Hall or the WTP)
- A jump server or laptop (may be virtual) will be made available to CONSULTANT by CITY throughout the Task 5 work in order to run tools inside of the WTP environment."

2. Existing Task budgets shall be re-allocated according to the table attached hereto as Exhibit A-1 in order to accomplish the additional work.
3. All work, including Task 5 work, shall be fully completed before June 30, 2018.
4. Except as specifically set forth herein, all terms and conditions of the AGREEMENT between the CITY and CONSULTANT, dated August 23, 2016, shall remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment on January 11, ~~2017~~<sub>2018</sub>.

EXECUTED as of the day first above-stated.

City of Fairfield, a municipal corporation

Kennedy/Jenks Consultants

By: \_\_\_\_\_

Mayor City Manager

By: \_\_\_\_\_

Douglas B. Henderson

Its: Vice President

ATTEST:

By: \_\_\_\_\_

City Clerk

APPROVED AS TO FORM:

By: \_\_\_\_\_

City Attorney

**EXHIBIT A-1**

**City of Fairfield**  
**NBRWTP - SCADA System Improvements - ESDC**  
**Amendment No. 1 - Budget Re-allocations**

Task No.	Task Description	Original	Revised
		Contract	Contract
		Amount	Amount
<b>1</b>	<b>Construction Management Assistance</b>	<b>\$12,250.00</b>	<b>\$5,000.00</b>
1.1	<i>Communications and Information Management</i>	\$8,237.00	\$4,500.00
1.2	<i>Attend and Document Final Inspection</i>	\$4,013.00	\$500.00
<b>2</b>	<b>Construction Observation</b>	<b>\$15,950.00</b>	<b>\$500.00</b>
2.1	<i>Servers and HMI Installations and Testing</i>	\$15,950.00	\$500.00
<b>3</b>	<b>Engineering Services During Construction</b>	<b>\$186,100.00</b>	<b>\$132,810.00</b>
3.1	<i>Meetings Participation</i>	\$23,630.00	\$29,600.00
3.2	<i>Submittal Reviews</i>	\$66,393.00	\$29,500.00
3.3	<i>Requests for Information (RFI) Responses</i>	\$52,582.00	\$29,500.00
3.4	<i>Request for Quotation (RFQ) Preparation</i>	\$11,438.00	\$4,200.00
3.5	<i>Site Visits/Factory Tests</i>	\$21,054.00	\$29,010.00
3.6	<i>Record Drawings Preparation</i>	\$11,003.00	\$11,000.00
<b>4</b>	<b>Project Management</b>	<b>\$31,100.00</b>	<b>\$27,640.00</b>
4.1	<i>Project Set-up and Management</i>	\$9,580.00	\$12,940.00
4.2	<i>Project Status Reporting</i>	\$8,208.00	\$6,100.00
4.3	<i>Quality Assurance/Quality Control (QA/QC) Reviews</i>	\$13,312.00	\$8,600.00
<b>5</b>	<b>Validation and Testing</b>	<b>\$0.00</b>	<b>\$79,450.00</b>
5.1	<i>Virtualization Resiliency Validation and Testing</i>	\$0.00	\$20,600.00
5.2	<i>Disaster Recovery Validation and Testing</i>	\$0.00	\$11,000.00
5.3	<i>Cyber Security Validation and Testing</i>	\$0.00	\$16,500.00
5.4	<i>Documentation</i>	\$0.00	\$31,350.00
<b>Totals</b>		<b>\$245,400.00</b>	<b>\$245,400.00</b>